PUBLICATIONS WITH ABSTRACTS OF THE PHARMACOLOGY LABORATORY

Bureau of Agricultural and Industrial Chemistry
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Supplement I

A limited number of the reprints of the publications are available. Those not available are marked with an asterisk (*).

Isopropyl alcohol in the paraffin infiltration technic. E. K. Doxtader. Stain Technology 23(1):1-2, January, 1948. A method is described for using isopropyl alcohol for dehydration of animal tissues preceding melted paraffin infiltration. Advantages of the technique are: simplicity, low cost, low toxicity and diminished distortion and hardening of the tissues.

*The effect of rutin on oxygen toxicity in rats. S. C. Allen and T. G. Mortarotti. Fed. Proc. 7(1):202, March, 1948. It has been claimed by Puig Muset and Valdecasas that vitamin P reduced the toxic effects in rats of exposure to 100% O_2. This has not been confirmed. A single dose of rutin before exposure had no effect. Continued dosing, by way of diet or drinking water, throughout the exposure period increased susceptibility to O_2. If rutin protects circulating epinephrine, this increased susceptibility might be expected, since epinephrine has a dilating effect on pulmonary capillaries.

*The effect of rutin on blood pressure in dogs and rabbits. A. M. Ambrose. Fed. Proc. 7(1):203, March, 1948. This effect of rutin on blood pressure in experimental animals has been variously reported. Fukuda (Arch. exp. Path. pharmakol, 164, 685 /1932/) has reported a pressor effect in rabbits and frogs, while Czimmer (ibid, 183, 587 /1936/) has observed no effect on blood pressure in cats. In conjunction with studies on capillary permeability, the effect of rutin on blood pressure has been studied in anesthetized dogs and rabbits. In 5 dogs, doses of 5, 20, or 100 mgm/Kgm. intravenously invariably produced a depressor response. The fall in blood pressure was in the order of 70 mm. Hg and usually returned to normal within 3 min. The size of the dose of rutin had no particular influence on the magnitude of the fall in pressure, but the recovery time was influenced by the size of the dose. In 6 rabbits, in which 100 mgm/Kgm. was injected intravenously, five showed a fall in blood pressure similar to that observed in dogs, and in one the effect was essentially pressor.

*The effect of rutin and quercetin on scorbutic guinea pigs. A. M. Ambrose. Fed. Proc. 7(1):202-203, March, 1948. Studies suggesting the use of flavone glycosides in the treatment of hemorrhagic manifestations of scurvy have been summarized (Nutritional Reviews, 1943 and 1945). Evidence is based upon observations that foods rich in natural vitamin C are more effective than equivalent amounts of synthetic ascorbic acid in maintaining the integrity of the capillary wall. Studies have been undertaken to demonstrate the effect of rutin and quercetin in supplementing the action of subminimal doses of ascorbic acid in guinea pigs on a scorbutogenic diet. Supplements of rutin

100 mgm., quercetin 100 mgm., or ascorbic acid 0.2 or 0.4 mgm. were fed daily during the course of the experiment. Guinea pigs on the scorbutogenic diet when fed rutin or quercetin alone showed no improvement. However, when these same supplements were fed in conjunction with 0.2 or 0.4 mgm. l-ascorbic acid, mortality, compared with ascorbic acid controls, was reduced and the general appearance of the animals improved. Tentatively it may be concluded that rutin or quercetin both appear to have a sparing action on subminimal doses of ascorbic acid in the scorbutic guinea pig. Quercetin appears to be more effective than rutin.

*Subtilin in blood after parenteral administration. R. H. Wilson, J. C. Lewis, and E. M. Humphreys. Fed. Proc. 7(1):266, March 1948. Subcutaneous or intramuscular injection of the antibiotic subtilin was not an effective way of getting the drug into the circulation. The subtilin was precipitated at the site of injection, presumably because of the unfavorable salt concentration of the body fluids. 10 mg./kg. intravenously led to concentrations in the blood of 100-200 ppm., dropping rapidly to 10-30 ppm. in 2 hours and zero in 24 hours. Greater acute dosage may cause death by embolism. Slow intravenous infusion was given a rabbit for 4 hours, with no visable symptoms and a final blood level of 750 ppm. was obtained.

*Effect of rutin on anaphylactic and histamine shock. R. H. Wilson and F. DeEds. Science 107(2780):369-370, April 9, 1948. This note discusses the paper by Raiman, Later and Necheles (Science, 106, 368 /1947/) and indicates that the reason these authors failed to protect guinea pigs from histamine shock was because they administered too much histamine. The protective action of rutin is obscured when higher doses of histamine are given.

A simple adaptation of the mercury calibration of Warburg manometer sets to insure interchangeability. S. C. Allen. Science 107(2788):604-605, June 4, 1948. A modification of the standard mercury technique of calibrating Warburg respirometer flasks and vessels is proposed. The method insures complete interchangeability of vessels and manometers without the laborious work of calibrating each vessel against each manometer.